chain reaction mixture and a second open end for an outlet of the polymerase chain reaction mixture, to permit continuous flow of the polymerase chain reaction mixture from the first open end to the second open end, wherein the capillary tube contacts the three heating blocks sequentially or repetitively.

14. The device of claim 1 or 2, which detects the degree of the reaction in real-time, further comprising:

(a) a fluorescence-inducing apparatus having a light source for inducing fluorescence, a unit for detecting fluorescence, and an optical system for collecting emitted fluorescence to the unit for detecting fluorescence after light irradiation to the capillary tube; and

(b) a scanning unit changing the relative positions of the fluorescence-inducing apparatus and the capillary tube.

15. The device of claim 14, wherein the reaction is a polymerase chain reaction.

16. A high-throughput multiplex device for performing continuous-flow reactions, wherein at least two heating block-insulating block assemblies are assembled with at least two temperature-adjustable heating blocks to perform at least two independent reactions, and a capillary tube is wound on each assembly wherein the capillary tube has a first open end for fluid inlet and a second open end for fluid outlet to permit a continuous flow of a fluid from the first open end to the second open end.

17. A high-throughput method of performing a continuous-flow nucleic acid amplification, comprising the steps of:

(a) injecting at least one polymerase chain reaction mixture into the first open end of the capillary tube of claim 1 or 2; and

(b) controlling the flow rate of the polymerase chain reaction mixture at an appropriate speed and collecting a polymerase chain reaction product discharged

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chain reaction mixture and a second open end for an outlet of the polymerase chain reaction mixture, to permit continuous flow of the polymerase chain reaction mixture from the first open end to the second open end, wherein the capillary tube contacts the three heating blocks sequentially or repetitively.

14. The device of claim 1 or 2, which detects the degree of the reaction in real-time, further comprising:

(a) a fluorescence-inducing apparatus having a light source for inducing fluorescence, a unit for detecting fluorescence, and an optical system for collecting emitted fluorescence to the unit for detecting fluorescence after light irradiation to the capillary tube; and

(b) a scanning unit changing the relative positions of the fluorescence-inducing apparatus and the capillary tube.

15. The device of claim 14, wherein the reaction is a polymerase chain reaction.

16. A high-throughput multiplex device for performing continuous-flow reactions, wherein at least two heating block-insulating block assemblies are assembled with at least two temperature-adjustable heating blocks to perform at least two independent reactions, and a capillary tube is wound on each assembly wherein the capillary tube has a first open end for fluid inlet and a second open end for fluid outlet to permit a continuous flow of a fluid from the first open end to the second open end.

17. A high-throughput method of performing a continuous-flow nucleic acid amplification, comprising the steps of:

(a) injecting at least one polymerase chain reaction mixture into the first open end of the capillary tube of the device of claim 1 or 2; and

(b) controlling the flow rate of the polymerase chain reaction mixture at an appropriate speed and collecting a polymerase chain reaction product discharged

from the second open end.

18. The method of claim 17, wherein the capillary tube contacts sequentially or repetitively the heating blocks each of whose temperature is set at 95~100°C, 45~65°C, and 65~72°C.

19. The method of claim 17, wherein the capillary tube repetitively contacts the heating blocks 10 to 50 times.

20. The method of claim 17, wherein the polymerase chain reaction mixture comprises $MgCl_2$, dNTP mixture, at least one primer, at least one thermophilic DNA polymerase, a thermophilic DNA polymerase buffer, and at least one template DNA.

21. The method of claim 20, wherein the primer is a molecular beacon.

22. The method of claim 20, wherein the polymerase chain reaction mixture further comprises at least one intercalating dye that emits fluorescence when intercalated into double-stranded DNA.

23. The method of claim 17, wherein the polymerase chain reaction mixture moves from the first open end to the second open end by a pump.

24. The method of claim 17, wherein the polymerase chain reaction mixture is injected continuously or discontinuously in step (a).

25. The method of claim 24, wherein when polymerase chain reaction mixture is injected discontinuously in different compositions each other, an organic solvent or air is injected between injections.

from the second open end.

18. The method of claim 17, wherein the number of solid heating blocks of the device of claim 1 or 2 is three, and the capillary tube contacts sequentially or repetitively the heating blocks each of whose temperature is set at 95~100°C, 45~65°C, and 65~72°C.

19. The method of claim 17, wherein the capillary tube repetitively contacts the heating blocks 10 to 50 times.

20. The method of claim 17, wherein the polymerase chain reaction mixture comprises $MgCl_2$, dNTP mixture, at least one primer, at least one thermophilic DNA polymerase, a thermophilic DNA polymerase buffer, and at least one template DNA.

21. The method of claim 20, wherein the primer is a molecular beacon.

22. The method of claim 20, wherein the polymerase chain reaction mixture further comprises at least one intercalating dye that emits fluorescence when intercalated into double-stranded DNA.

23. The method of claim 17, wherein the polymerase chain reaction mixture moves from the first open end to the second open end by a pump.

24. The method of claim 17, wherein the polymerase chain reaction mixture is injected continuously or discontinuously in step (a).

25. The method of claim 24, wherein when polymerase chain reaction mixture is injected discontinuously in different compositions each other, an organic solvent or air is injected between injections.